CLAIMS:

1. An electronic warfare (EW) cross-eye system, the system comprising:

a receiver for receiving a radar signal; and

a polarimeter-based subsystem including at least one polarimeter for measuring or synthesizing the received radar signal for producing a jamming signal for transmission.

2. The system of claim 1 wherein the receiver comprises at least two antennas, separated from each other, for receiving the radar signal.

3. The system of claim 2 wherein the polarimeter-based subsystem includes:

a receive polarimeter for measuring the received radar signal; and

a transmit polarimeter for synthesizing the measured received radar signal for producing the jamming signal.

4. The system of claim 3 wherein the jamming signal comprises a pair of inverted amplitude signals that are 180 degrees out of phase with each other.

5. The system of claim 3 further comprising a processor for use in adjusting (a) the receive polarimeter to measure the received radar signal and (b) the transmit polarimeter for producing the jamming signal.

6. The system of claim 3 further comprising a phase adjuster for further adjusting the phase of the jamming signal.

7. Apparatus for producing a jamming signal for transmission, the apparatus comprising:

a receive polarimeter for measuring a received radar signal for producing a polarimeter setting representative of the measured received radar signal and for measuring a phase delay associated with the apparatus;

a transmit polarimeter, set according to the polarimeter setting, for synthesizing the measured received radar signal for producing the jamming signal; and

a phase adjuster for adjusting the phase of the jamming signal before transmission to compensate for the measured phase delay.

8. The apparatus of claim 7 further comprising a processor for controlling the receive polarimeter, the transmit polarimeter and the phase adjuster.

9. A vehicle comprising:

at least a pair of antennas disposed on the vehicle and separated apart from each other for providing portions of a received radar signal;

a receive polarimeter for measuring phase and amplitude relationships between the portions of the received radar signal; and

a transmit polarimeter for producing a jamming signal based upon the measured phase and amplitude relationships.

10. The vehicle of claim 9 wherein the transmit polarimeter produces a jamming signal comprising a pair of inverted amplitude signals that are 180 degrees out of phase with each other.

11. The vehicle of claim 9 further comprising a processor for use in adjusting (a) the receive polarimeter to measure the phase and amplitude relationships and (b) the transmit polarimeter for producing the jamming signal.

12. The vehicle of claim 9 further comprising a phase adjuster for further adjusting the phase of the jamming signal before transmission.

13. The vehicle of claim 9, wherein the vehicle is an airplane comprising a pair of wings and the antennas are placed on different wings of the pair.

14. A method for use in jamming a radar signal, the method comprising the steps of:

receiving the radar signal;

measuring the received radar signal with a receive polarimeter;

synthesizing the measured received radar signal with a transmit polarimeter to produce a jamming signal; and

transmitting the jamming signal.

15. The method of claim 14 wherein the receive polarimeter comprises receive phase parameter ports and a difference port, and the measuring step comprises the steps of:

varying parameter values applied to the receive phase parameter ports until a null signal is detected on the difference port; and

storing the parameter values associated with detection of the null signal.

16. The method of claim 15 wherein the transmit polarimeter comprises transmit phase parameter ports and a difference port, and the synthesizing step comprises the steps of:

setting the transmit phase parameter ports to the stored parameter values; and

generating a jamming signal from the transmit polarimeter by application of a source signal to the difference port of the transmit polarimeter.

17. The method of claim 15 wherein the receive polarimeter also comprises a sum port and the synthesizing step comprises the steps of:

adding a phase delay to the jamming signal before transmission thereof;

wherein the phase delay is iteratively determined by detecting when a null condition occurs on the sum port.

18. The method of claim 15 wherein the receive polarimeter also comprises a sum port and the jamming signal comprises a pair of inverted amplitude signals, and wherein the synthesizing step comprises the steps of:

testing the pair of inverted amplitude signals for the occurrence of a null condition on the sum port; and

if the null condition has not occurred, iteratively adding a phase delay to at least one of the pair of inverted amplitude signals until the occurrence of the null condition.